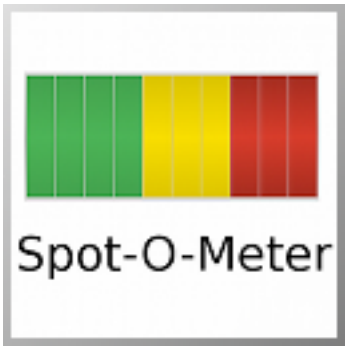


SpotOff and Spot-O-Meter

Spotlight Control and Monitoring Utilities
for the Mac OS X Operating System

Version 1.1

Product Profile

Software and Computer Systems Company, LLC

What are *SpotOff* and *Spot-O-Meter*?

SpotOff is a tool that allows an end user to enable and disable Spotlight® indexing on Mac systems, while *Spot-O-Meter* is a tool that allows an end user to monitor Spotlight® indexing. Intense Spotlight indexing can interfere with a systems operation because it can consume an incredible amount of system resources, effectively slowing some systems to a crawl. If *Spot-O-Meter* detects a high level of indexing at an inconvenient time (more on this later), a user can effectively shut down Spotlight by using *SpotOff* returning that power back to the user.

Both *SpotOff* and *Spot-O-Meter* are universal binaries and can work on systems equipped with Macintosh® OS X Versions 10.5 (Leopard), 10.6 (Snow Leopard), and 10.7 (Lion) using Intel® or PowerPC processors. ***SpotOff* requires administrative privileges to execute, but *Spot-O-Meter* does not.**

Both *SpotOff* and *Spot-O-Meter* are licensed products. *SpotOff* costs a few dollars, whereas *Spot-O-Meter's* license is free. Please review the licenses for the products at our web site before ordering or downloading. Information on the products is available from our web site at:

http://www.scsc-online.com

Software and Computer Systems Company, LLC (SCSC) also offers several other utilities for Mac OS X users, including *Scannerz for Mac OS X* and *FSE*. *Scannerz* is the most advanced hard drive scanning tool commercially available for Mac OS X. *FSE* is a file system events monitor for Mac OS X.

SpotOff and *Spot-O-Meter* may be useful to *FSE* users since Spotlight can saturate file system activity, making it difficult for an *FSE* user to monitor a specific file system event. *Scannerz* has embedded Spotlight indexing control built into it, so an individual considering *Scannerz* doesn't need to acquire *SpotOff* or *Spot-O-Meter* in order to perform hard drive tests.

Why *Use SpotOff and Spot-O-Meter*?

Many users of Macs have experienced the sometimes intrusive properties of Spotlight. Spotlight is, in case you didn't know this already, a feature built into Mac OS X since 10.4 that allows a user to search their storage media for files. It's a great idea, and it's improved greatly over the years, but one cumbersome feature that many users have complained about are the delays that can occur when Spotlight begins it's periodic indexing and updating sequences, frequently without warning. When this occurs, CPU and drive access can become quite intense. A user may experience the following during periods of heavy indexing:

- Applications that normally complete quickly now take much longer.

- Web access slows down considerably.
- Laptops may become hotter than normal, sometimes kicking on fans
- Games may become “jerky” due to CPU cycles being taken away from them.
- Videos, either online or on DVD seem to have unexplainable pauses in them.
- Battery consumption on laptops seems to degrade at a much higher rate than normal.

SpotOff was developed by SCSC to give control over Spotlight indexing back to the user, and *Spot-O-Meter* was developed to tell the user when they might be interested in disabling Spotlight.

The logic behind *SpotOff* is based on the following observations:

- Most people, when working with their systems, are fully aware of what they're doing, what files they're updating, what changes they're making, etc., and they don't necessarily need a robotic process to automatically kick in and start tracking what they're already fully aware of.
- Most people take breaks when their Macs can be left alone and Spotlight indexing can occur without interfering with any their activities.

Spotlight is a beast that appears to have a life of its own. It starts and stops in what appears to be (but isn't) an almost random fashion. *SpotOff* allows the user to control Spotlight by allowing a user to turn it off and turn it back on at will. When it's turned off, it's off, even between reboots and shutdowns. When *SpotOff* allows Spotlight indexing to resume, Spotlight may start re-indexing the storage media. Whether this occurs or not depends on how long Spotlight has been disabled, and how many file changes have occurred since the last time Spotlight was run.

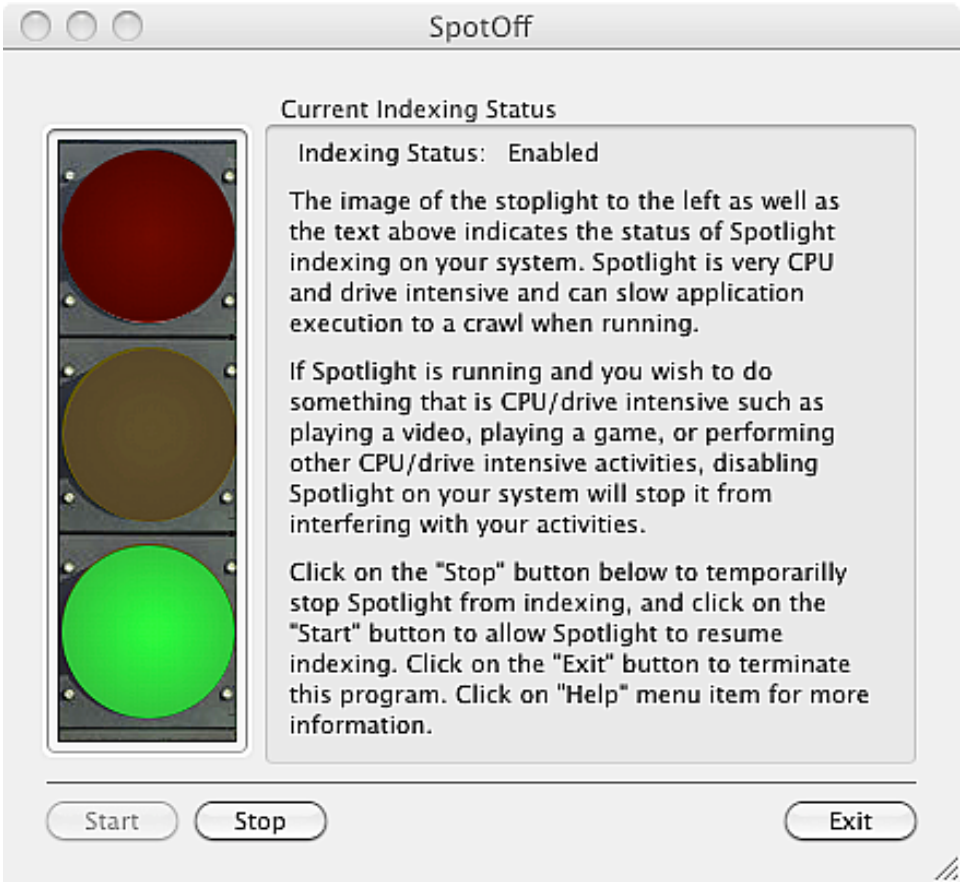
As an illustration, the following screen captures from Activity Monitor (which can be found under Applications->Utilities->Activity Monitor) show typical CPU and memory consumption when Spotlight is going through its indexing phases:

PID	Process Name ▲	% CPU	Real Mem	Kind	CPU Time
55	mds	53.2	162.2 MB	Intel (64 bit)	1:10.42
237	mdworker	51.6	5.9 MB	Intel (64 bit)	27.85
227	mdworker	0.0	45.1 MB	Intel (64 bit)	3.44
226	mdworker	0.0	13.6 MB	Intel (64 bit)	0.49
225	mdworker	47.4	21.2 MB	Intel (64 bit)	41.66
213	mdworker	0.0	12.0 MB	Intel (64 bit)	0.54
235	mdworker32	0.0	4.8 MB	Intel	0.26

In the preceding illustration (which was taken using dual core system), the mds server (for **M**eta **D**ata **S**erver) has spawned off six worker threads and the instance this screenshot was taken, the %CPU utilization was a total of 152.2% out of a possible of 200% (100% for each CPU core). Spotlight indexing is thus using over three quarters of the systems processing power. If *SpotOff* is allowed to disable Spotlight, mds and all its worker threads stop, and all that CPU power is returned to the user.

How Difficult is *SpotOff* to use?

The *SpotOff* interface is very easy to use and is illustrated below:

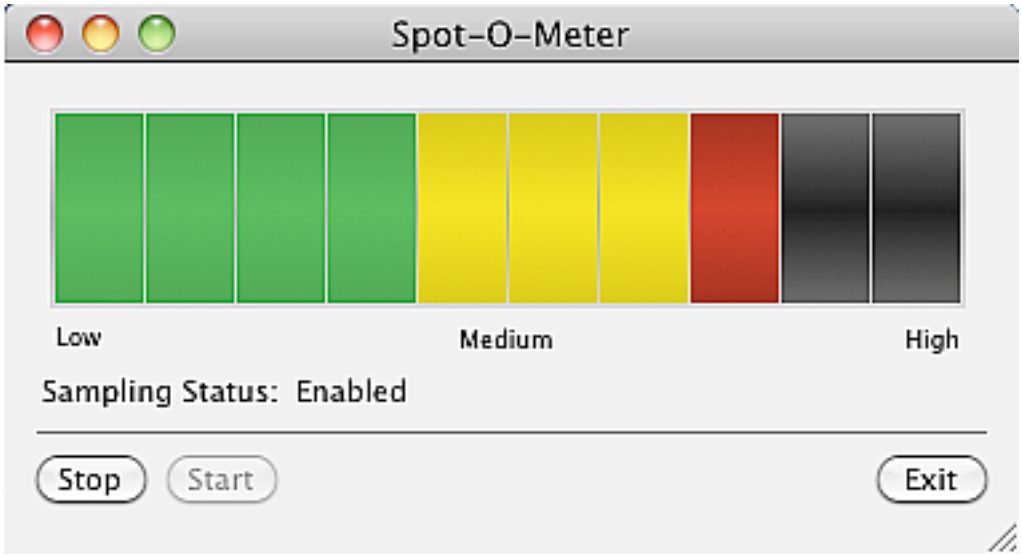


The stop light image on the left side as well as the “Indexing Status” in the user interface indicate the status of Spotlight on a system. If the light is green, as it is above, Spotlight is active. If it's yellow, then Spotlight is transitioning from active to inactive, and if it's red, it indicates Spotlight has been disabled.

To disable Spotlight, all the user need do is click on the *Stop* button. To re-enable Spotlight, the user clicks on the *Start* button. To end the application, the user clicks on the *Exit* button. That's all there is to it!

How Difficult is *Spot-O-Meter* to use?

The screen shot below illustrates the *Spot-O-Meter* interface. Once started, a user simply clicks on the *Start* button to begin monitoring Spotlight activity. If the user wishes to stop monitoring Spotlight without exiting the application, the click on the *Stop* button. To exit the application, click on the *Exit* button. In the illustration below, *Spot-O-Meter* is indicating fairly intense Spotlight activity.



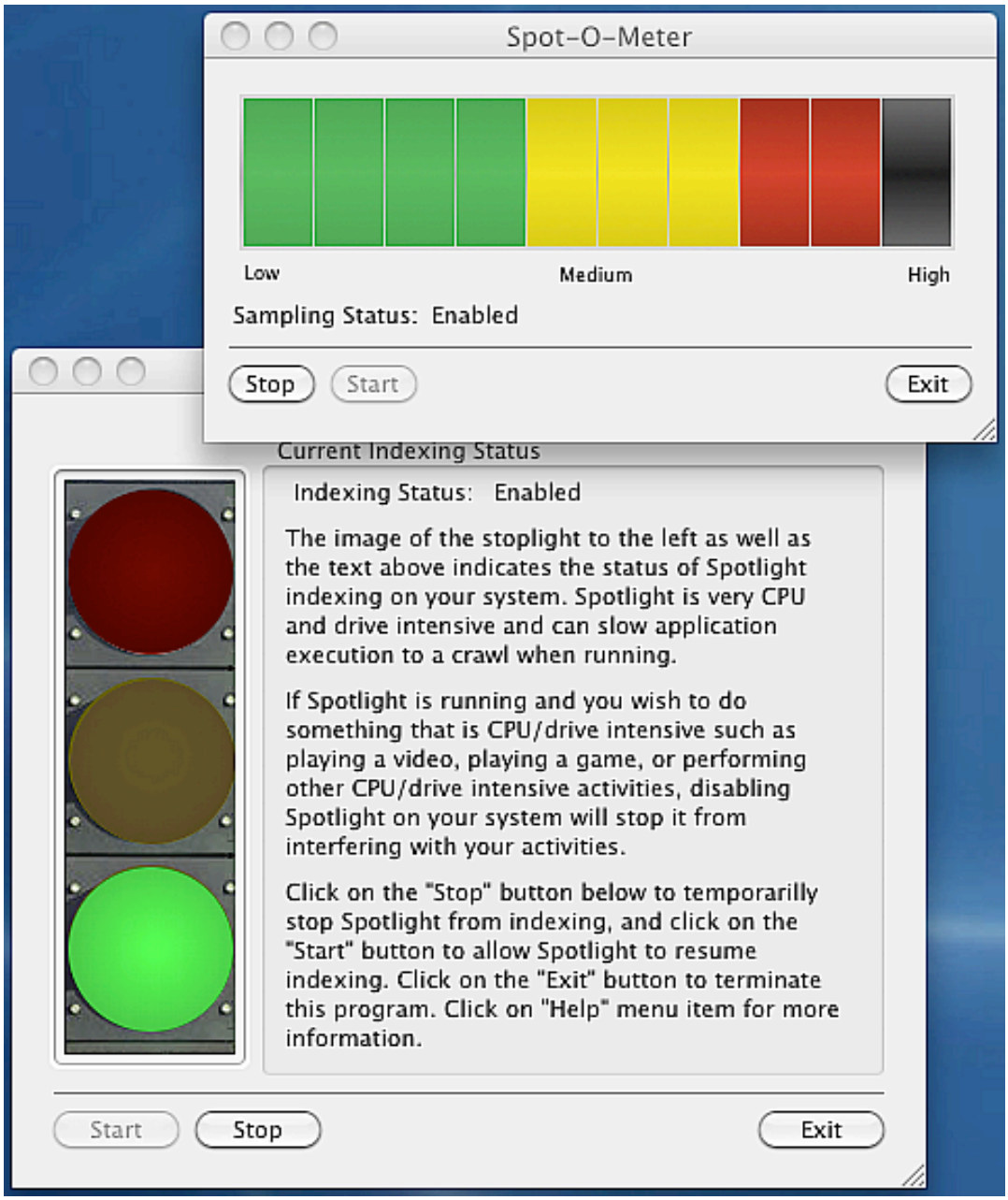
Spot-O-Meter indicates the severity of Spotlight activity by use of a color bar indicator across the top half of the user interface. If all indicators are black, there is no activity. If the indicators show 1-4 green indicator bars, the activity is light to moderate. If the indicators move into the yellow range the activity is moderately intense to intense. If they move into the red range, then Spotlight activity is very intense. Users with single processor systems may find that Spotlight begins to become somewhat obtrusive with 3 or 4 green indicators, and users with two cores typically begin to notice effects when it's in the yellow range. *Spot-O-Meter* interrogates the system for the CPU count and adjusts the readings and factors in a scaled I/O factor to determine Spotlight intensity readings.

Spot-O-Meter by itself can only report on Spotlight activity, but it can't control it. It can, however, let a user know when Spotlight is in its intense indexing phase. If a system is needed to perform tasks that are somewhat CPU or I/O intensive, they'll at least know why delays are occurring, and if needed, avoid them until Spotlight is done.

An Illustration Using SpotOff and Spot-O-Meter Together

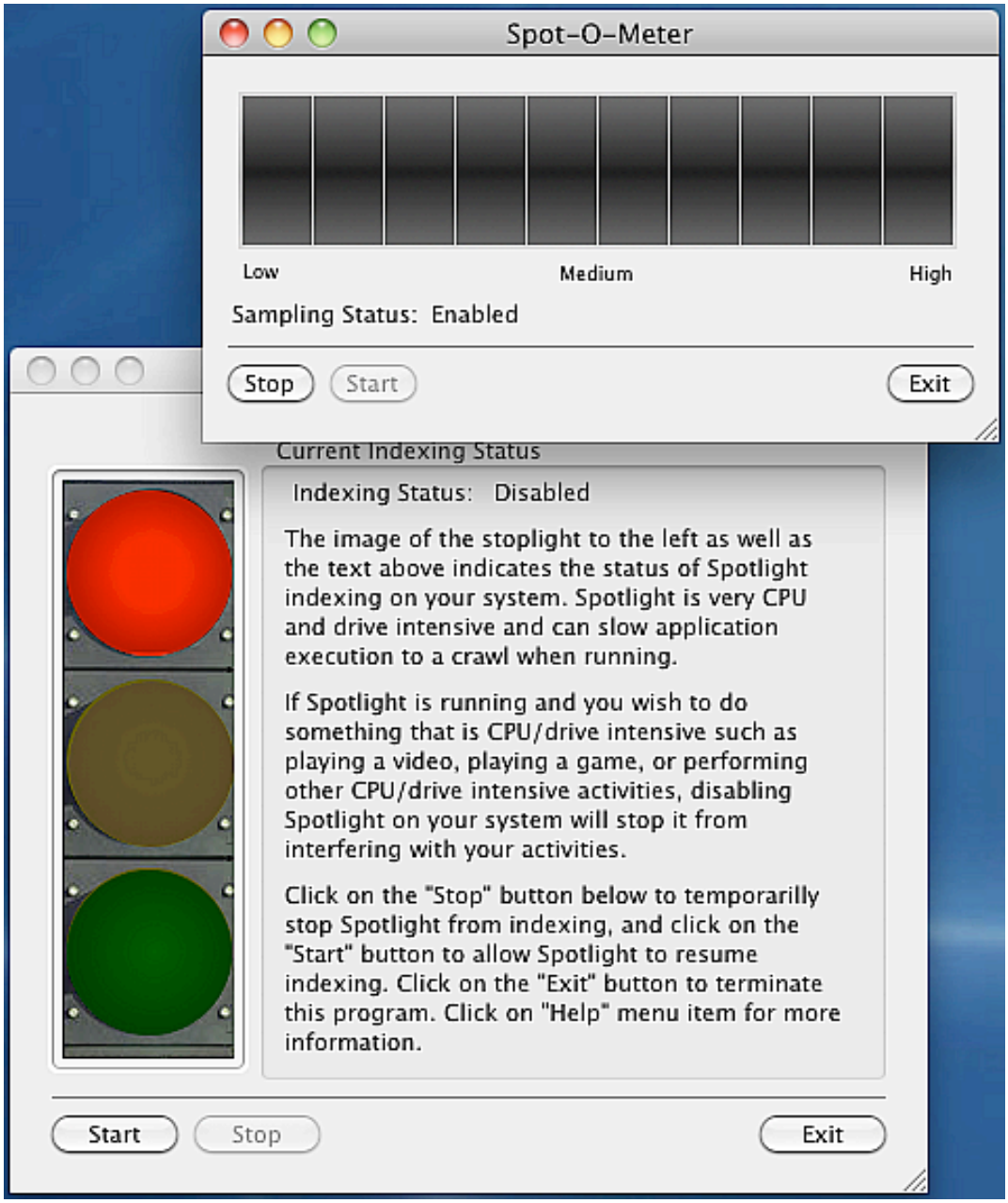
We at SCSC back up all our data to an external hard drive. Once another drive is introduced to the system (in this case, the backup drive), Spotlight typically starts going into its indexing phase. During a backup, this can be troublesome because not only is the system writing data to the backup, but at the same time, Spotlight is trying to index all of it. This causes an incredible slow down.

During this process, *Spot-O-Meter* would typically indicate high Spotlight activity as shown in the following screen shot:



The image above illustrates *Spot-O-Meter* showing an intense level of activity (upper right corner) while *SpotOff* (lower left corner) indicates that Spotlight is enabled. Because of the Spotlight activity, the backup would take an abnormally long time, and essentially render the system almost useless. The solution was easy: use *SpotOff* to disable Spotlight.

Within minutes of using *SpotOff* to disable Spotlight, *Spot-O-Meter* reported the following:



Spot-O-Meter indicates that Spotlight indexing has fallen to an undetectable

level and *SpotOff* is indicating that Spotlight has been disabled. A backup that was taking 3 hours now takes 1 hour, and indexing can be re-enabled with *SpotOff* at a more convenient time.

Contact Information

If you have more questions, please visit our web site at:

http://www.scsc-online.com

For specific questions about the product, feel free to drop us a line at the following e-mail addresses:

Sales: sales@scsc-online.com
Support: support@scsc-online.com

Thank you for your interest in SpotOff and Spot-O-Meter.

Legal Information